Instructions for Use

HistoCore Arcadia C

Cold Plate

HistoCore Arcadia C V 1.2, English 06/2015
Order No.: 14 0393 80101 Rev. C

Always keep this manual with the instrument.
Read carefully before working with the instrument.

The information, numerical data, notes and value judgments contained in this manual represent the current state of scientific knowledge and state-of-the-art technology as we understand it following thorough investigation in this field.
We are under no obligation to update the present manual periodically and on an ongoing basis according to the latest technical developments, nor to provide our customers with additional copies, updates etc. of this manual.
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For the instrument serial number and year of manufacture, please refer to the name plate at the back of the instrument.

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Leica Biosystems Nussloch GmbH
Heidelberger Str. 17 - 19
D-69226 Nussloch
Germany
Phone: +49 (0)62 24 143-0
Fax: +49 (0)6224 143-268
Internet: http://www.LeicaBiosystems.com
Assembly contracted to Leica Microsystems Ltd. Shanghai

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1.1 Naming conventions

The full name of the device is HistoCore Arcadia C Cold Plate. The device is called HistoCore Arcadia C to ensure that the Instructions for Use are well legible.

1.2 Symbols in the text and their meanings

Warnings
appear in a gray box and are marked by a warning triangle ⚠.

Notes,
i.e. important user information appear in a gray box and are marked by an information symbol i.

(5)
(Figure 5)

Numbers in parentheses refer to item numbers in illustrations or to the illustrations themselves.

Caution, consult the instructions for use for cautionary information.

Power on.

Power off.

Observe the Instructions for Use

Manufacturer

Date of manufacture

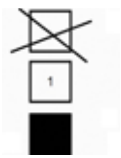
Symbol for alternating current

PE terminal

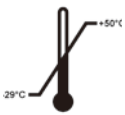
REF

Order No.

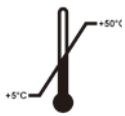
1.2 Symbols in the text and their meanings

SN	Serial number
	Environmental protection symbol of the China RoHS directive. The number in the symbol indicates the "Environment-friendly Use Period" of the product. The symbol is used if a substance restricted in China is used in excess of the maximum permitted limit.
	Symbol for labeling electrical and electronic equipment in accordance with Section 7 of the German Electrical and Electronic Equipment Act (ElektroG). ElektroG is the law regarding the sale, return and environmentally sound disposal of electrical and electronic equipment.
CE	This product fulfills the requirements of the EU directives.
	This product fulfills the requirements of the CAN/CSA-C22.2 No. 61010.
	The package contents are fragile and must be handled with care.
	The package must be kept in a dry environment.
	Indicates the correct upright position of the package.
	It allows maximum 2 stacks layers.

1.2 Symbols in the text and their meanings (Continued)



Indicates the temperature range permitted for storing and transporting the package.
Minimum -29 °C
Maximum +50 °C



Indicates the temperature range permitted for storing the package.
Minimum +5 °C
Maximum +50 °C

Indicates the humidity range permitted for storing and transporting the package.
Minimum 10 % r.H.
Maximum 85 % r.H

Tip-n-Tell indicator to monitor whether the shipment has been transported and stored in upright position according to your requirements. With a pitch of 60° or more, the blue quartz sand flows into the arrow-shaped indicator window and sticks there permanently. Improper handling of the shipment is immediately detectable and can be proven definitively.

In the Shockwatch system, a precision glass tube shows shocks or impacts that are above a specified intensity through red coloration. Exceeding a defined acceleration (g value) destroys the surface tension of the liquid in the interior of the tube. This causes the indicator tube to change color.

Indicates the item can be recycled where correct facilities exist.

1.3 Instrument type

All information provided in these Instructions for Use applies only to the instrument type indicated on the cover page.

A nameplate is attached to the back of the instrument and a serial number label is on the side of the instrument.

Fig. 1 is provided as an example only and shows a valid nameplate for this instrument with the necessary information about instrument type and power requirement. The precise data for the various versions is specified in Chapter 3.3, "Technical data".

Fig.1

1.4 Intended use of instrument

The HistoCore Arcadia C is a cold plate for chilling and blocking out histological tissue samples in paraffin blocks.

Any other use of the instrument will be considered as improper use!

1.5 Qualification of personnel

- The HistoCore Arcadia C may be operated by trained laboratory personnel only.
- All laboratory personnel designated to operate this instrument must read these Instructions for Use carefully and must be familiar with all technical features of the instrument before attempting to operate it.

2.1 Safety notes

The safety and caution notes in this chapter must be observed at all times.
Be sure to read these notes even if you are already familiar with the operation and use of other Leica Biosystems products.

These Instructions for Use include important instructions and information related to the operating safety and maintenance of the instrument.

These Instructions for Use are an important part of the product, and must be read carefully prior to startup and use and must always be kept near the instrument.

This instrument has been built and tested in accordance with the safety requirements for electrical equipment for measurement, control, and laboratory use.

To maintain this condition and ensure safe operation, the user must observe all notes and warnings contained in these Instructions for Use.

These Instructions for Use must be appropriately supplemented as required by the existing regulations on accident prevention and environmental safety in the operator's country.

The protective devices on the instrument and its accessories must not be removed or modified. Only service personnel qualified by Leica Biosystems may repair the instrument and access the instrument's internal components.

Use only the provided power cable - this must not be replaced with a different power cable. If the power plug does not fit in your socket, contact our service.

Residual risks
The instrument has been designed and constructed with the latest state-of-the-art technology and according to recognized standards and regulations with regard to safety technology. Operating or handling the instrument incorrectly can place the user or other personnel at risk of injury or can cause damage to the instrument or other property. The instrument may be used only as intended and only if all of its safety features are in proper working condition. Malfunctions that impede safety must be remedied immediately.

For current information about applicable guidelines, please refer to the CE declaration of conformity and on our Internet site at:
http://www.LeicaBiosystems.com

To prevent damage to the instrument or the specimen, only accessories authorized by Leica Biosystems may be used.

2.2 Warnings

The safety devices installed in this instrument by the manufacturer only constitute the basis for accident prevention. Operating the instrument safely is, above all, the responsibility of the owner, as well as the designated personnel who operate, service or repair the instrument.

To ensure trouble-free operation of the instrument, make sure to comply with the following instructions and warnings.

Warnings – Safety notes on the instrument itself

- **This device may only be used by trained laboratory technicians. It must only be operated for the purpose of its designated use and according to the instructions contained in these Instructions for Use.**
- **Safety notes on the instrument itself, which are marked with a warning triangle, indicate that the correct operating instructions (as defined in these Instructions for Use) must be followed when operating or replacing the item marked. Nonobservance can cause accidents, injuries and/or damage to the instrument/accessories.**

Safety instructions - Transport and installation

- **After unpacking the instrument it may only be transported in an upright position.**
- **Before connecting the device to a power source, ensure that the voltage indicated on the type plate matches the voltage available at the place of installation.**
- **The unit must be connected only with the supplied power cable and only to a grounded power receptacle. Do not use an extension cord.**
- **The power socket to which the instrument is connected has to be near the instrument and easily accessible.**

- **The minimum voltage (see Technical data) must be maintained while starting the refrigeration unit.**
  The compressor needs a start-up current of approx. 25 A. A stable power supply in accordance with the instrument's specifications is essential to its proper functioning. Please ensure that your electrical installation fulfills these preconditions prior to installing the unit. Nonobservance causes damage to the instrument.
- **Switch off the instrument each time before servicing, repairing or cleaning, and pull out the power plug.**
- **Failure to observe the instructions specified by the manufacturer may result in damage to the protection provided by the instrument.**

3. Instrument Components and Specifications

3.1 Overview — instrument components

Instrument front view

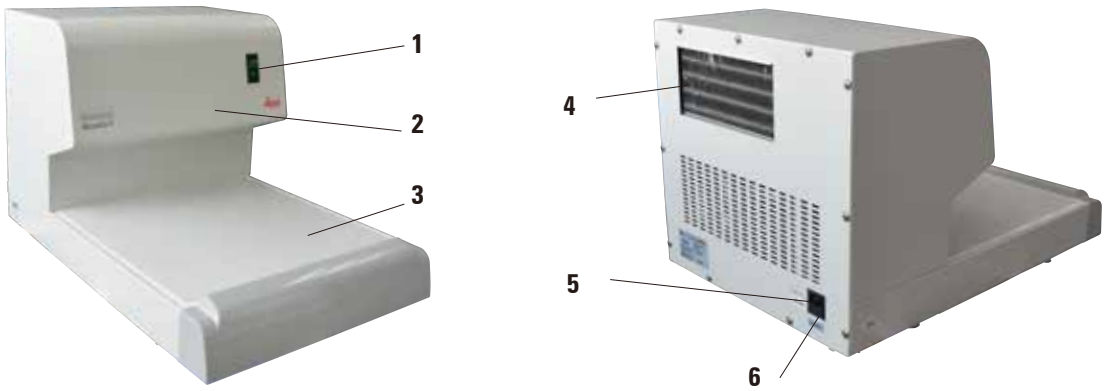


Fig.2

1. Power switch
2. Refrigeration system (inside)
3. Cooling surface
4. Heat sink
5. Port for power inlet
6. AC fuses

3.2 Main features of the instrument

- The instrument is distinguished by a simple, modular design and a powerful refrigeration unit with precisely controlled cooling performance.
- The environment adaptive control module ensures the working temperature always stabilized at -6 °C.
- High cooling performance ensures that the instrument's working temperature is reached quickly.
- Optimized temperature distribution in the cold plate prevents dripping condensation.
- The generously-dimensioned cooling surface has room for around 60 blocks.
- Designed to be used with the HistoCore Arcadia H Paraffin Embedding Station.

3.3 Technical Data

General data

Voltage of power supply

Instrument type	Power supply voltage	Order Number
HistoCore Arcadia C	220-240 VAC 50/60Hz	14 0393 53599
	110-120 VAC 50/60Hz	14 0393 54092
	100 VAC 50/60Hz	14 0393 54091

Fuse	Time-lag fuses 5 x 20 mm, 2xT5A, 250V
Nominal current	5 A max.
Maximum start-up current (5 s)	25 A
Environmental operating temperature range	+20 °C to +30 °C
Operating temperatures	-6 °C
Environmental relative humidity	20 to 80 % - non-condensing
Environmental operating altitude	Up to 2000 m
Permissible temperature range during storage	+5 °C to +50 °C
Permissible temperature range during transport	-29 °C to +50 °C
Permissible humidity range during storage and transport	10 to 85 % - non-condensing
Electromagnetic environment	Basic electromagnetic environment
IEC 61010 classification	Protection class 1
Pollution degree	2
IP protection class (IEC 60529)	IP20
Refrigeration unit	
Refrigeration capacity*	158 W(at 50Hz) ;185 W(at 60Hz)
Safety factor	3
Refrigerant	R 134a

3.3 Technical Data (Continued)

Compressor oil	150 +10/-5 ml Ester RL7H, ISO 7

* according to ASHRAE, condensing temperature: 54.4 °C, evaporating temperature: -23.3 °C

Coolant	115 g ± 2 g
Dimensions and weights	
Width:	400 mm
Depth:	605 mm
Height:	385 mm
Weight:	30 kg

4.1 Site requirement

- Stable, vibration-free laboratory table with horizontal, flat table top, as far as possible vibration-free ground.
- No direct sunlight or strong temperature fluctuations. Room temperature consistently between +20 °C and +30 °C.
- Relative air humidity maximum 80 %, non-condensing.
- The instrument should be set up in such a way that the air circulation is not impaired.
- The instrument must be installed in a place that ensures an easy disconnection from the power supply. The power cable must be in a place that can be easily reached.

At a room temperature of > +30 °C, the working temperature of the cold plate of -6°C may not be reached at all points.

To ensure proper function and an easy disconnection of the power cable from the instrument, there must be gap of at least 15 cm behind the instrument. Failure to observe this distance may result in serious damage to the refrigeration unit of the device. The instrument should not be operated in hazardous locations.

4.2 Standard delivery—packing list

Qty	Designation	Order No.
1	Basic unit HistoCore Arcadia C,	
	220-240 VAC	14 0393 53599
	220-240 VAC, China	14 0393 54102
	110-120 VAC	14 0393 54092
	100 VAC	14 0393 54091
1	Power cord	See page 16
4	Sets of spare fuses, 250 V 5A	14 6000 05015
1	Instructions for Use (printed German/English with language CD 14 0393 80200)	14 0393 80001

Please compare the delivered components against the packing list and your order. Should there be any discrepancy, please contact the Leica Biosystems distributor handling your order.

4.3 Unpacking and installation

When the instrument is delivered, check the tilt indicators on the packaging. If the arrowhead is blue, the shipment was transported laying flat, was tilted at too great an angle or fell over during transport.
Note this on the shipping documents and check the shipment for possible damage.

Fig.3

Fig.4

These unpacking instructions only apply if the box is placed with the symbols facing upwards.

1. Remove the packing strap (**1**) and the adhesive tape (**2**).
2. Open the package. Lift up and remove the carton wall (**3**).
3. Remove the foam pads (**4**) one by one.

The HistoCore Arcadia C always has to be transported upright and horizontally. It must not be inverted under any circumstances, even for short periods, or stored on one of its sides.

It is mandatory to observe a waiting time of 4 hours between the last transport and the first time the instrument is switched on. The oil present in the compressor needs this time to flow back to its original location.

4.3 Unpacking and installation (Continued)

Fig.5

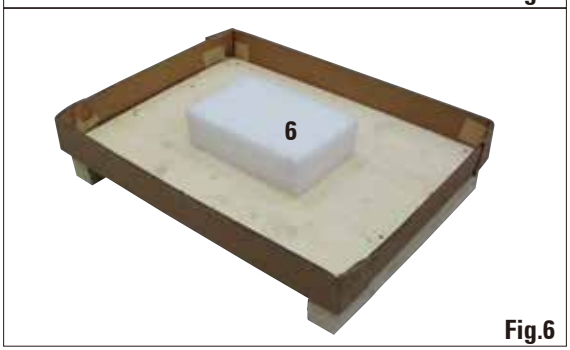


Fig.6

4. Ensure that when removing the instrument (**5**) from the pallet this is carried out by two people lifting four lower corners of the housing base (**Fig. 5**).
5. Place the instrument on a stable laboratory table.
6. Remove the accessories from the accessory box (**6**) on the base of the pallet.

The packaging must be retained for the duration of the warranty period.
To return the instrument, follow the instructions above in reverse order.

4.4 Moving the instrument

Do not move the instrument during operation.
Before moving the instrument, make sure that there is no specimen blocks on the cold plate, the instrument is at an ambient temperature, and the power cord is disconnected from the power supply.
Do not touch the metal parts of the compressor air outlet (1) on the rear panel.
It is mandatory to observe a waiting time of 4 hours before the instrument is switched on.

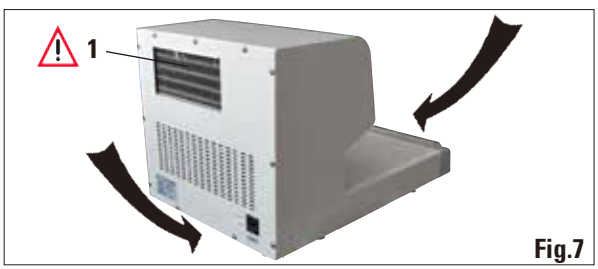


Fig.7

Hold the instrument at the front and rear part of the lower housing base and move.

4.5 Power supply

The HistoCore Arcadia C refrigeration unit requires a specific voltage and frequency (refer to **"Technical data" chapter**), and is therefore always delivered with a power cord that fits the instrument.

Please observe the following notes to prevent damage to the instrument.

Before connecting the instrument to the power supply, it is mandatory to check whether the voltage specified on the identification label (rear side) matches the actual voltage values at the installation location.
If this is not the case, the connection must not be made!
The unit must be connected only with the supplied power cord and only to a grounded power receptacle.
Do not use an extension cord!

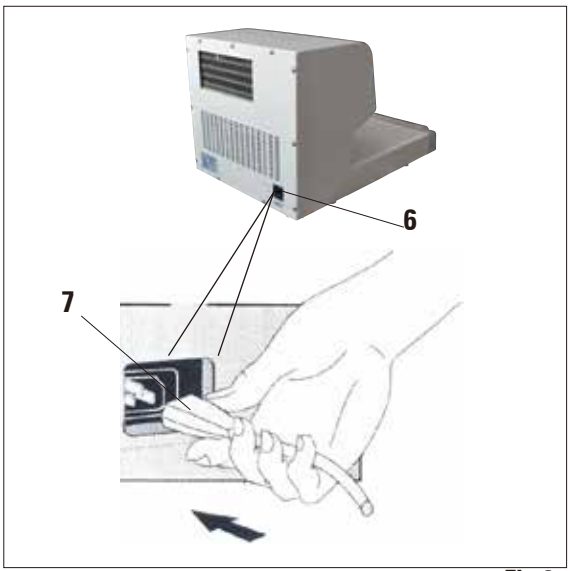


Fig.8

- Connect the power cord plug (**7**) to the connecting port (**6**).
- Plug the power cord into the wall outlet.

Depending on the application area, one of the following cables is delivered along with the instrument:

Designation	Order No.
USA	14 6000 05024
Japan	14 6000 05025
Brazil	14 6000 05026
Europe	14 6000 05027
China	14 6000 05028
Australia	14 6000 05029
United Kingdom	14 6000 05030
Switzerland	14 6000 05066
Italy	14 6000 05067
Denmark	14 6000 05068
Argentina	14 6000 05070

5.1 Switching the instrument on

Fig.9

After installation as described in **Chapter 4**, the HistoCore Arcadia C is ready for operation. Switch on the device with the Power switch at the front left of the instrument ("I" = ON). A lamp lights up in the switch to indicate that the unit is operational and the refrigeration unit will start working.

Depending on the room temperature, the time to reach the target temperature of the cooling surface (-6 °C) will be around 25 minutes.

The cooling surface may not be loaded with molds until the cooling time has elapsed. Otherwise, the working temperature of -6 °C may not be reached.

The compressor will start to work in five minutes after the power is on.

5.2 Replacing the secondary fuse

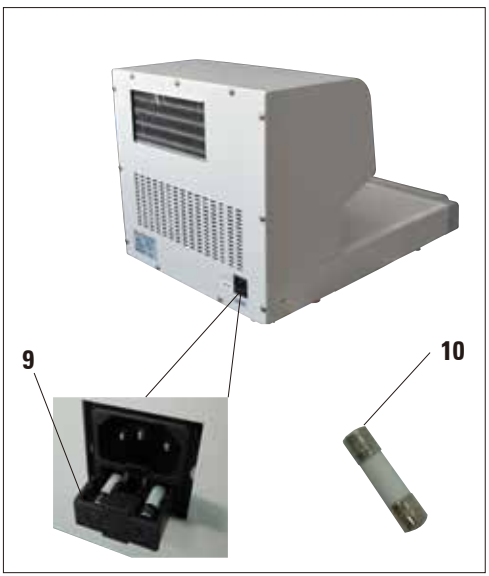


Fig.10

A miniature fuse to protect the electronic components is located on the rear of the instrument.
Fuse rating: 5A, 250 V

Before replacing the fuse, always switch the instrument off and pull the power plug from the wall socket.
Only miniature fuses of the type specified in the chapter "Technical data" can be used.

To replace the fuse, please proceed as follows:

1. Use a screwdriver to open the fuse holder (**9**) and remove the fuses (**10**).
2. Replace them with two new fuses of the same type.
3. Use the screwdriver to press the fuse holder back to its original location.
4. Reconnect the instrument to an AC power outlet and switch it on.

6.1 Cleaning the instrument

Switch off the instrument and pull out the power plug each time before cleaning.
While handling cleaning materials, observe the safety regulations of the manufacturer and the lab regulations valid in the country of use.
During cleaning, do not allow any liquid to penetrate inside the instrument!
To prevent scratching the surface of the instrument, do not use metallic tools with sharp edges under any circumstances.

Work surfaces

- All common laboratory cleaning products suitable for the removal of paraffin (e.g. Polyguard or xylene substitutes) can be used to clean the work area.
- Use a dry, lint-free tissue paper to clean the condensed water on the cold plate.

Instrument and exterior surfaces

- If necessary, clean the painted exterior surfaces with a mild household cleaner or soapy water and wipe with a damp cloth.
- Avoid prolonged contact of organic solvents on the surface of the instrument. Do not use xylol, acetone or alcohol on the painted surfaces!

6.2 Maintenance instructions

Only Leica Biosystems service technicians are authorized to open the instrument for maintenance and repair work.

Please observe the following points to ensure the instrument's reliable function over extended periods:

- Clean the instrument with care after each use.
- Regularly remove dust from the ventilation slots on the back of the instrument with a brush or vacuum cleaner.
- Enter into a service contract at the end of the warranty period. For more information, contact the relevant Leica Biosystems customer service organization.

If you cannot solve your problem using the help in the following table, please contact your Leica Biosystems customer service organization or the Leica Bosystems dealer from whom you purchased the instrument.

Error condition	Possible causes	Corrective action
The cold plate cannot cool down to the target temperature and the alarm beeps twice.	Inadequate air supply to ventilation unit. Or The cold plate is malfunctioned.	1. Make sure that enough space is reserved between the wall and the instrument. It must be at least 15 cm. 2. Wait about 5 minutes and restart the instrument. 3. If the problem persists, contact customer service.
The cold plate cannot cool down to the target temperature but no alarm.	Ambient temperature is too high. Or Too much condensated water/ice/frost on the cold plate surface.	1. Make sure that the room temperature is 20~30 °C. 2. Make sure that enough space is reserved between the wall and the instrument. It must be at least 15 cm. 3. Clean the cold plate and restart the instrument. 4. If the problem persists, contact customer service.
The temperature of the cold plate is too low and the alarm beeps steady (may cause cracks on the paraffin blocks).	The cold plate is malfunctioned.	1. Restart the instrument. 2. If the problem persists, contact customer service.

8. Warranty and Service

Warranty

Leica Biosystems Nussloch GmbH guarantees that the contractual product delivered has been subjected to a comprehensive quality control procedure based on the Leica Biosystems in-house testing standards, and that the product is faultless and complies with all technical specifications and/or characteristics warranted.

The scope of the warranty is based on the content of the concluded agreement. The warranty terms of your Leica Biosystems sales organization or the organization from which you have purchased the contractual product shall apply exclusively.

Service information

If you require technical service or replacement parts, please contact your Leica Biosystems sales representative or dealer who sold the product.

Please provide the following information:

- Model name and serial number of the instrument.
- Location of the instrument and name of the person to contact.
- Reason for the service call.
- Date of delivery.

Decommissioning and disposal

The instrument or parts of the instrument must be disposed of in compliance with the local laws.

Dear Customer,

Any product that is to be returned to Leica Biosystems or serviced on site, must be cleaned and decontaminated in the appropriate manner. Since it is not possible to decontaminate for prion diseases, such as CJD, BSE, CWD etc., equipment exposed to specimens containing prion diseases cannot be returned to Leica Biosystems for repair. On-site repair of prion contaminated equipment will only be conducted after the Field Service Engineer has been educated in the risks, instructed in the policies and procedures of the institution, and provided with personal protective equipment. Please fill out this confirmation carefully and enclose a copy with the instrument. Attach the confirmation to the outside of the flight case or hand it directly to the service technician.

Packages will not be opened, nor servicing commenced until the Company or service engineer have received a satisfactory certificate. Should returned goods be considered a hazard by the Company, they will be returned immediately to the customer at his/her expense. **Note:** Microtome knives must be in boxes.
Mandatory information: Fields marked with * are mandatory. Depending on whether the instrument is contaminated, please also complete either section A or section B.

Nameplate information

Model (see nameplate)*

SN (see nameplate)*

REF (see nameplate)*

Tick Box A if applicable. Otherwise please complete all parts of B, providing further information as requested or appropriate.

A

Yes ☐

This equipment has not been in contact with unfixed biological samples.

B

1 This equipment has been exposed internally or externally to hazardous materials as indicated below:

Yes	No		Please provide further detail here:
☐	☐	Blood, body fluids, pathological samples	
☐	☐	Other biohazards	
☐	☐	Chemicals/substances hazardous to health	
☐	☐	Other hazards	
☐	☐	Radioactivity	

2 This equipment has been cleaned and decontaminated:

Yes	No		Please provide further detail here:
☐	☐	If yes, give details of the method:	
		If no**, please indicate why not:	

** Such equipment must not be returned without the written agreement of Leica Biosystems.

3 The equipment has been prepared to ensure safe handling/transportation. Whenever possible, please use the original transportation case/box.

Yes ☐ No ☐

9. Decontamination Certificate (Master)

Important - to avoid refusal of shipment:
Place one copy in the unit prior to packaging, or hand it over to the service engineer. Customer assumes all responsibility for the immediate return shipment of articles sent to Leica without proper decontamination documentation.
If you have any further questions, please call your local Leica organization.
Leica Internal Use: If applicable, note corresponding Job and RAN-/RGA-Number:

Job Sheet No.: _____ BU **R**eturn **A**uthorization **N**umber: _____ SU **R**eturn **G**oods **A**uthorization: _____

Signature/Date*

Name*

Position*

eMail

Institute*

Department*

Address*

Phone* **Fax**

Leica Biosystems Nussloch GmbH
Heidelberger Str. 17-19
69226 Nussloch, Germany

Phone: ++49 (0) 6224 143 0
Fax: ++49 (0) 6224 143 268
www.LeicaBiosystems.com

www.LeicaBiosystems.com

Leica Biosystems Nussloch GmbH
Heidelberger Strasse 17-19
D- 69226 Nussloch
Tel.: +49 - (0) 62 24 - 143 0
Fax: +49 - (0) 62 24 - 143 268
Web: www.LeicaBiosystems.com